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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,009	10/24/2003	Robert Mazzei	2000-013-B	3719
7590	05/19/2004			EXAMINER PARSLEY, DAVID J
Attn: AMSTA-AR-GCL U.S. Army TACOM-ARDEC M. Sachs / Building 3 Picatinny Arsenal, NJ 07806-5000			ART UNIT 3643	PAPER NUMBER

DATE MAILED: 05/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/694,009	MAZZEI ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	David J Parsley	3643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 24 October 2003.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1,3-8 and 11-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1,3-8 and 11-14 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 24 October 2003 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_

## **Detailed Action**

### ***Preliminary Amendment***

1. Entry of applicant's preliminary amendment dated 10-24-03 is acknowledged. Further, in this amendment applicant adds into the first line of the specification that this application is a continuation of application serial # 10/087,711. However, application serial # 10/087,711 was abandoned on 8-21-03, which is before the filing date 10-24-03 of this application and therefore it appears that this application cannot claim priority to application serial # 10/087,711.

### ***Specification***

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because it contains over 150 words.

Correction is required. See MPEP § 608.01(b).

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3. The disclosure is objected to because of the following informalities: the statement in page 1 lines 1-2 that this application is a continuation of application 10/087,711 needs to be deleted as seen above in paragraph 1 of this office action.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 3-8 and 11-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear to how the vent plug indicates a dud.

Claims 3-8 and 11-14 depend from rejected claim 1 and include all of the limitations of claim 1 thereby rendering these dependent claims indefinite.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-8 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 1,875,985 to Brandt in view of IT Patent No. 487021.

Referring to claim 1, Brandt discloses a projectile for use with a gun system, comprising a fuse – at 3, a projectile body – see figures 7-8, including an open end – proximate 3, and a closed rear end – see figures 1-8, wherein the front end of the projectile is secured to the fuse – see figure 1, a boom assembly – at 37, secured to the closed end of the projectile body – see figures 7-8, the projectile body formed in a vent tube having a forward end that is secured to the fuse and a rearward end that abuts against the rear end of the projectile body – see figures 7-8, to form a smoke chamber, wherein the rear end of the projectile body includes at least one normally closed vent hole – at 34, in communication with the smoke chamber and at least one vent plug – at 35, that fits in the vent hole closing it, that is unplugged from the projectile body upon function of the fuse, to allow smoke that accumulates inside the smoke chamber to be released and that provides an indication of a dud – see for example figures 1-8. Brandt does not disclose a center vent tube having a forward end that is secured to the fuse and a rearward end that abuts against the rear end of the projectile body, to form a smoke chamber and to provide added weight to control a center of gravity of the projectile. The Italian patent does disclose a center vent tube – proximate 4, having a forward end that is secured to the fuse – at 7-12, and a rearward end that abuts against the rear end of the projectile body – at 2, to form a smoke chamber and to provide added weight to control a center of gravity of the projectile – see the drawing figure. Therefore it would have been obvious to one of ordinary skill in the art to take the device of Brandt and add

the center vent tube of the Italian patent, so as to allow for the device to be able to quickly direct the gas/smoke from the projectile body along a desired path.

Referring to claim 3, Brandt as modified by the Italian patent further discloses the at least one vent hole – at 34 includes a plurality of vent holes – see for example figures 7-8 of Brandt.

Referring to claim 4, Brandt as modified by the Italian patent further discloses the plurality of vent holes – at 34, include four equally spaced apart vent holes – see for example figures 7-8 of Brandt.

Referring to claim 5, Brandt as modified by the Italian patent further discloses a plurality of vent plugs – at 35 that fit in the vent holes – at 34 – see for example figures 7-8 of Brandt.

Referring to claim 6, Brandt as modified by the Italian patent further discloses the plurality of vent plugs – at 35, includes four vent plugs – see for example figures 7-8 of Brandt.

Referring to claim 7, Brandt as modified by the Italian patent further discloses the center vent tube – proximate 4 of the Italian patent is cylindrically shaped – see the drawing figure of the Italian patent.

Referring to claim 8, Brandt as modified by the Italian patent further discloses the center vent tube – proximate 4 of the Italian patent is open at both ends – see for example the drawing figure of the Italian patent.

Referring to claim 11, Brandt as modified by the Italian patent further discloses the center vent tube – proximate 4 of the Italian patent, is mounted along an axial length of the projectile body – at 2 – see the drawing figure of the Italian patent.

Referring to claim 12, Brandt as modified by the Italian patent further discloses the fuse – at 3 of Brandt, has an elongated stepped shape comprised of a forward end, an intermediate step and a narrower rearward step – see figure 1 of Brandt.

Referring to claim 13, Brandt as modified by the Italian patent further discloses the rearward step defines an edge with the intermediate step – see for example figure 1 of Brandt.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brandt as modified by the Italian patent as applied to claim 13 above, and further in view of U.S. Patent No. 5,228,855 to Frost. Brandt as modified by the Italian patent does not disclose the center vent tube has a forward edge such that when the projectile is assembled, the rearward step fits inside the center vent tube, with the forward edge abutting the edge defined between the rearward step and intermediate step, to secure the center vent tube to the fuse. Frost does disclose the center vent tube – at 12,14, has a forward edge such that when the projectile is assembled, the rearward step – of item 20, fits inside the center vent tube, with the forward edge abutting the edge defined between the rearward step and intermediate step, to secure the center vent tube to the fuse – at 20 – see for example figure 1. Therefore it would have been obvious to one of ordinary skill in the art to take the device of Brandt as modified by the Italian patent and add the vent tube with rearward end of the fuse disposed inside the vent tube of Frost, so as to allow for the fuse to be securely held in place to the projectile body.

### *Conclusion*

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to practice mortar shells and projectiles in general:

U.S. Pat. No. 4,109,579 to Carter – shows practice mortar round

U.S. Pat. No. 4,218,976 to Luebbers – shows practice round with vent holes

U.S. Pat. No. 4,549,487 to Jensen – shows practice round with vent holes

U.S. Pat. No. 4,711,180 to Smolnik – shows practice round with vent holes

U.S. Pat. No. 4,898,097 to Jordan et al. – shows practice round

U.S. Pat. No. 6,041,713 to Altenau et al. – shows practice projectile

U.S. Pat. No. 6,209,461 to Riffet et al. – shows practice round

FR Pat. No. 2579316 – shows practice round

GB Pat. No. 2192696 – shows mortar round

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David J Parsley whose telephone number is (703) 306-0552. The examiner can normally be reached on 9hr compressed.

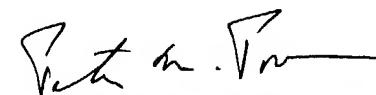
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on (703) 308-2574. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David Parsley  
Patent Examiner  
Art Unit 3643



PETER M. POON  
SUPERVISORY PATENT EXAMINER

